

## 6000 Phase Angle Voltmeter

Using the latest digital signal processing technology, the 6000 Series PAV delivers true accuracy and versatility.

### Quality and Reliability

Vitretek, founded in 1990, is the premier source of precision power testing and measuring equipment for industrial and consumer product development and manufacturing. Vitrek's sophisticated technology provides companies the edge in design verification and product manufacturability.



### High Reliability with Low Cost of Ownership

The 6000 Series Phase Angle Voltmeter (PAV) continuously self-tests its internal circuitry ensuring the most accurate results possible and eliminating lengthy recalibrations. These minimal calibration requirements, coupled with field-proven superior reliability and a two-year warranty, make the cost of ownership low.

The ability to separately apply amplitude scaling and phase offsets to each input allows the 6000 to provide truly meaningful results. It delivers actual results and separate deviations from either the values present at a given time, or from entered data, and presents these in delta, ratio, percentage or dB formats. The user can choose to have phase shifts displayed in either degrees (0 - 360° or ± 180°), radians or time delay format. The THD can be displayed in absolute, percentage or dB formats.

- > Wide bandwidth (0.1Hz – 100kHz)
- > 0.05% basic amplitude accuracy
- > 0.05° phase accuracy
- > Total & individual harmonic analysis
- > 100ppm accuracy, 1ppm resolution, frequency measurements
- > 4-line scrollable (50 lines total) display and 101 element nullmeter
- > Separate amplitude and frequency scaling and phase offset on all outputs
- > Phase sensitive or frequency selective voltage, current power and impedance measurements
- > Frequency response and distortion analysis
- > Front panel configuration lockout for dedicated production and QC test applications
- > Can be configured to emulate older analog PAVs that exist in the market

### INDUSTRIES SERVED

- LVDT/RVDT Manufacturers
- Synchro/Resolver Manufacturers
- Accelerometer and Gyroscope Manufacturers
- Military
- Aerospace

**25**  
Years Industry  
EXPERTISE

# 6000 Phase Angle Volt Meter

Test Like You  
**MEAN IT**



## Condensed Specifications

(Contact Vitrek for complete specifications.)

### VOLTAGE INPUTS

**Amplitude:** 0.05% + 0.005%/kHz for any single input and for matching between any inputs multiply by 2 for voltages in excess of 300Vpk

**Phase:** 0.05° + 0.005%/kHz between A and B on same range, + 0.0025°/kHz per range when differing ranges, + 0.05°/kHz between unpaired inputs, multiply by 2 for voltages in excess of 300Vpk

**Noise:** 20nV + 0.00001% of full-scale range/ $\sqrt{\text{Hz}}$  of measurement bandwidth

**DC Offset:** 100 $\mu$ V + 0.03% of full-scale range

**Distortion:** -80dB at any harmonic

**Voltage Range:** 10mV to 1000Vpk full scale (10Vrms max for 50 $\Omega$  input) in 3:1 steps. Fixed or auto range

**Trigger Level:** Zero, TTL, ECL, CMOS, or Variable. 1% of input range accuracy

**Bandwidth:** >2.5MHz or user-defined upper limit in the range of 5Hz to 100kHz (-3dB)

**Configuration:** Balanced Differential BNC input pairs with separate Guard binding posts. DC + AC or AC only coupling (0.1Hz cut off). Guard may be externally driven or internally connected to either input Lo

**Impedance:** 600k $\Omega$  to Guard from each input node, selectable 50 $\Omega$  input impedance, in parallel with less than 35pF

**Common Mode:** Guard isolated from ground (100M $\Omega$  || 1000pF) for voltages <1000Vpk. Inputs may have voltages to Guard of up to the larger of the range full-scale value or 10V. CMRR referred to Guard is >80db for frequencies up to 10kHz, decreasing linearly to >60dB at 100kHz. CMRR referred to ground is >140dB at DC to 10kHz, decreasing linearly to >100dB at 100kHz

### CURRENT INPUTS

Current inputs are as voltage inputs with an internal current shunt, yielding full-scale current ranges of up to 300mA peak in 3:1 steps. Maximum burden is 250mV External shunts may optionally be used on the voltage inputs to extend the current ranges up to 20A RMS

### PHYSICAL

**Power:** 80 – 265 Vrms autoselect, 40 – 400 Hz @ 25VA max

**Size:** 7”h x 17”w x 14”d

**Weight:** 20 lbs

**Operating Range:** 0°C to 50°C, less than 85% RH at 40°C (non-condensing)

**Storage Range:** -30°C to +65°C, less than 95% RH at 40°C (non-condensing)

### WARRANTY

Two Years

## ORDERING INFORMATION

PART #	DESCRIPTION
6000-3	Three-Input Phase Angle Voltmeter
6000-6	Six-Input Phase Angle Voltmeter
RE	Rack Adapter Kit
UG6000	Additional 6000 Operating Manual

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REV 3/19

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